

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

DRAFT

Conditional Major/Operating

Permit: F-07-054

Clover Creek Brick Company Inc.

Cloverport, KY 42111

December 6, 2007

Esmail Hassanpour, Reviewer

SOURCE ID: 21-027-00011

AGENCY INTEREST: 417

ACTIVITY: APE20070001

SOURCE DESCRIPTION:

The Clover Creek Brick Company applied to the Kentucky Division for Air Quality on September 7, 2007, to renew their current permit in Cloverport, KY. The source currently has operating permit (F-00-011) which is a brick Manufacturing Plant. Raw material in the form of shale or clay is shipped by truck to the facility. The shale or clay is then ground and screened within a building. A baghouse controls particulate emissions. The ground clay or shale is then conveyed to an extruder. A small amount of stain may then be applied to the surface of the extruded material for aesthetic purpose. The extruded material is then cut into bricks. The bricks are then sent to pre-heater and possibly one of two dryers to reduce moisture content. The pre-heater and dryers utilize excess air from the kilns. The bricks are then placed into one of two kilns. After a firing period for 24 to 48 hours, the bricks are moved from kiln and prepared for shipment. Both kilns are natural gas, direct-fired kilns and are designed to be operated continuously, 24 hrs/day and 365 days/yr. Due to the inherent physical restrictions of the kiln firing cycles, the grinding, screening, extrusion, and cutting processes will only be operated 8 hrs/day. Both kilns use a baghouse to control Particulate Matter.

COMMENTS:

APPLICABLE REGULATIONS:

For Emission Unit 05-07:

401 KAR 59:010, New Process Operations, applicable to an emission unit that commenced on or after July 2, 1975.

Emission Point 05 (02): Preheater/Dryer

Pursuant to 401 KAR 59:010, Section 3(2), particulate matter emissions into the open air shall not exceed $[3.59(P)^{0.62}]$ pounds per hour based on a three-hour average where P is the processing rate in tons per hour. The permittee may assure compliance with the particulate mass emissions allowable by calculating emissions using the following formula: particulate emissions in pounds per hour = processing rate in tons/hour x emission factor of 0.87 pounds/ton.

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Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed twenty (20) percent opacity based on a six-minute average.

Pursuant to 401 KAR 52:030, Section 26, the permittee shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis and maintain a log of the observations. If emissions from the stack are seen, the permittee shall determine the opacity of emissions by U.S. EPA Reference Method 9 and initiate an inspection of the unit for any necessary repairs. Also, Pursuant to 401 KAR 52:030, Section 26, the permittee shall monitor the processing rates and hours of operation on a weekly basis.

Emission Point 06(01): Tunnel Kiln #1

Pursuant to 401 KAR 59:010, Section 3(2), particulate matter emissions into the open air shall not exceed $[3.59(P)^{0.62}]$ pounds per hour based on a three-hour average where P is the processing rate in tons per hour. The permittee may assure compliance with the particulate mass emissions allowable by calculating emissions using the following formula: particulate emissions in pounds per hour = processing rate in tons/hour x emission factor of 0.87 pounds/ton.

Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed twenty (20) percent opacity based on a six-minute average.

Pursuant to 401 KAR 52:030, Section 26, the permittee shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis and maintain a log of the observations. If emissions from the stack are seen, the permittee shall determine the opacity of emissions by U.S. EPA Reference Method 9 and initiate an inspection of the unit for any necessary repairs. Also, Pursuant to 401 KAR 52:030, Section 26, the permittee shall monitor the processing rates and hours of operation on a weekly basis.

Emission Point 07 (03): Tunnel Kiln #2

Pursuant to 401 KAR 59:010, Section 3(2), particulate matter emissions into the open air shall not exceed $[3.59(P)^{0.62}]$ pounds per hour based on a three-hour average where P is the processing rate in tons per hour. The permittee may assure compliance with the particulate mass emissions allowable by calculating emissions using the following formula: particulate emissions in pounds per hour = processing rate in tons/hour x emission factor of 0.87 pounds/ton.

Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed twenty (20) percent opacity based on a six-minute average.

Pursuant to 401 KAR 52:030, Section 26, the permittee shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis and maintain a log of the observations.

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If emissions from the stack are seen, the permittee shall determine the opacity of emissions by U.S. EPA Reference Method 9 and initiate an inspection of the unit for any necessary repairs. Also, Pursuant to 401 KAR 52:030, Section 26, the permittee shall monitor the processing rates and hours of operation on a weekly basis.

EMISSION AND OPERATING CAPS DESCRIPTION:

In accordance with 401 KAR 52:030 Section 10, source wide emissions of hydrogen fluoride (HF) shall not equal or exceed 10 tons/year on a twelve-month rolling average. The permittee shall demonstrate compliance with this limitation times a 90% safety factor, which would give a limit of 9 tons HF/year.

The permittee may demonstrate compliance with this limitation by calculating emissions using the following emission factor from AP-42, section 11.3 until completion of the required testing (Section B, Testing Requirements) using EPA Method 26A or equivalent is performed, and a facility emission factor is calculated:

$$\text{HF Emissions (tons/year)} = (0.37 \text{ lb of HF/ton fired product})(1 \text{ ton HF/2000 lb HF})(\text{tons of product/year})$$

Note: If testing for the units indicates a facility emission factor greater than the AP-42 emission factor, Clover Creek Brick Company shall submit a revised emission factor for each unit.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.